WIRELESS BRIDGE

USER MANUAL

Model: CPE609P

Tips:

Thank you for ordering and using ULNA CPE609P Wireless Bridge, please read the manual carefully before use. If there are any problems during the use, please contact us in time.

(Reference connection setup video: You can search for ULNA wireless bridge on Hardy Brothers Product Reviews channel on YouTube.)

The installation of this device requires some network knowledge. If you can't install it, please let us know or contact a professional.

Customer Service Email: support01@ulnastore.com

Contents

1. Overview - 1
1.1 Introduce - 1
1.2 Highlights - 1
1.3 Specifications - 2
2. Package Included - 3
3. Interface Details - 3
3.1. Button Operation - 4
4. LED Indicator Details - 4
5. Quick Start - 5
5.1 PoE Power Supply - 5
5.2 Point to Point Pairing Step - 6
5.3 Point to Multipoint Pairing Step - - - - - - - - - - - - - - - - 6
6. Installation - 7
6.1 Pole mount - 7
6.2 Wall-mounted - 7
6.3 Connect to the device - 8
7. WiFi Function - 8
8. Application Case - 8
8.1 Case 1: PTP extended network WiFi range - - - - - - - - - 8
8.2 Case 2: PTP extended of surveillance cameras range - - - 9
8.3 Case 3: PTMP extended surveillance cameras range - - - 9
8.4 Case 4: PTP extended surveillance cameras range - - - - 9
9. Advanced Settings - 10
10. Troubleshooting - 19
11. Technical Support and Service - - - - - - - - - - - - - - - - - 21

1. Overview

1.1 Introduce

ULNA CPE609P is a long-distance 5.8G wireless transmission device with dual gigabit ports. It uses wireless communication technology to transmit network data using air as a medium to perform long-distance point to point or point to multi-point interconnection. The working data link layer realizes the interconnection of local area networks. The transmission distance can reach up to 5KM/3.1Miles.

CPE609P Video Bridge Transmission usually consists of two devices in AP and Client mode respectively. On the Client-side (Receiver) CPE connects with IP Camera, at the AP side (Transmitter) CPE connects with a video recorder. The AP can be receiving wireless data transmitted from multiple Clients, and it is easy and convenient to centralized management of the remote equipment.

CPE is widely used in highways, reservoir river monitoring, elevator onitoring systems, site crane monitoring systems, port terminal monitoring systems, marine aquaculture monitoring systems, and so on.

Point to point extend network WiFi range, extend the network in the house to your barn, garage, church, warehouse, and even neighbor's house through wireless bridge signal transmission. No need to install a new modem and pay for it every month, saving you money.

1.2 Highlights

1. Transmission using 5.8Ghz wireless technology;
2. Dual 1000Mbps RJ45 LAN port, support Gigabit;
3. Built-in 14dbi high gain WiFi antenna;
4. Support IEEE802.11ac and compatible with IEEE 802.11a/an;
5. Transmission distance up to 5km (Barrier-Free), line of sight;
6. Master bridge supports WiFi hotspot access;
7. Dialing to set the transmitter (Master bridge) and receiver (Slave bridge), easy to use;
8. WDS networking mode, video network dual compatible;
9. Support point to point, point to multi-point mode;
10. Support 24V PoE power supply, easy to install and deploy;
11. Support WEB GUI access management device.

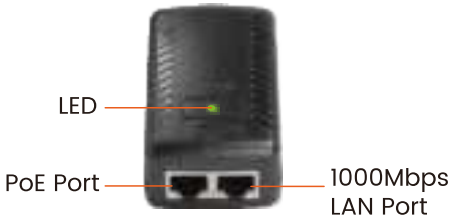
1.3.Specifications

Brand	ULNA
Model	CPE-609P
CPU	MT7621A+MT7612EN
Flash	8MByte
DRAM	DDR2 128MByte
Interface	Dual 1000Mbps Ports
Data rate	11a: 54M, 48M, 36M, 24M, 18M, 12M, 9M, 6Mbps 11n: 7.2M, 14.4M, 21.7M, 28.9M, 43.3M, 57.8M, 65M, 72.2M, 14.4M, 28.9M, 43.3M, 57.8M, 86.7M, 115.6M, 130M, 144.4Mbps 433Mbps, Max 1000Mbps
Transfer method	IEEE802.11ac IEEE 802.11a/an
Frequency Range	5.8GHz, 5180MHz ~5825MHz
Power	≤8W, PoE 24V~1A; 12V~1A
Antenna	14dBi, Horizontal 60°/Vertical 30°
WEP GUI	Support
Telnet	Support
Serial	Support
Safety	WPA-Personal, WPA2-Personal, WPA-Auto-Personal, WPA-Enterprise (Radius), WPA2-Enterprise(Radius), WPA-Auto-Enterprise(Radius), Radius with 802.1x
Temperature	-30～65°C

2. Package Included

2 × CPE609P Wireless Bridge
2 × Gigabit PoE Injector (24V)
2 × Cat 5e Network Cable
2 × Metal Hoop
1 × Mounting Screw Set
1 × User Manual

3. Interface Details

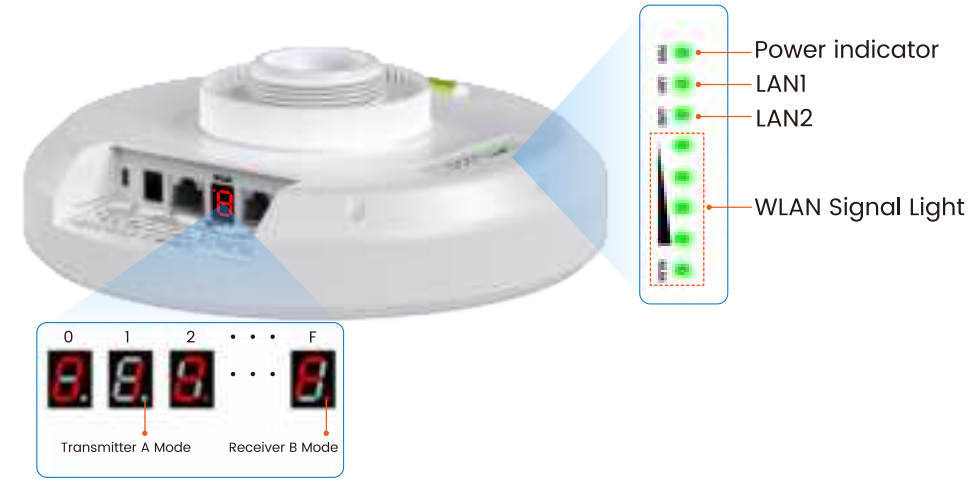


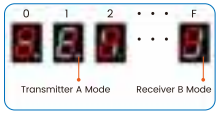
3.1. Button Operation

Reset Button: Long press for 10S to reset the wireless bridge; Short press to toggle a different character to pairing.

A-B Button: Pushing the button to "A" indicates that the bridge acts as the master bridge (transmitter), and pushing the button to "B" indicates that the bridge acts as the slave bridge (receiver).

4. LED Indicator Details



LED Light	Description
Signal Lights	After the bridge is connected successfully, the WLAN light will be on, otherwise the WLAN light will not be lit.
LAN1/LAN2	The data connection is successful, the LED light is on, otherwise, it is not bright.
PWR	Power indicator, the LED is on after plug in
Digital Tube	Digital display LED flashing means editing the configuration or connecting
Digital Tube	A fixed number means that the bridges are paired successfully and are working.
The Small Red Dot	

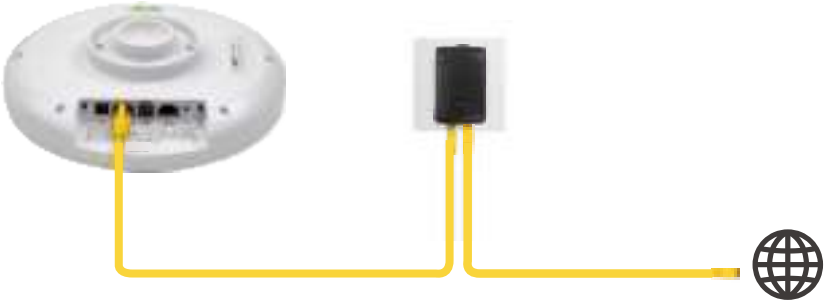
Successfully Pairing	

5. Quick Start

5.1 PoE Power Supply

The CPE609P wireless bridge adopts a PoE power supply, which is easy to install and manage while saving costs.

1.1.1 According to the requirements, prepare a long enough network cable (Recommended within 65 meters, must be Cat 5e or above) to connect the wireless bridge and the PoE injector. The PoE port of the PoE injector is connected to one of the LAN port of the wireless bridges.
1.1.2 The other LAN port of the wireless bridges is connected to the PC, router, and switch...



1.1.3 You can also connect the PoE port of the PoE injector to the wireless bridge, LAN port of PoE to the the PC, router, and switch.....

5.2 Point to Point Pairing Step:

1. Switch one unit to A(Master Bridge) and the other one to B(Slave Bridge);
2. Connect the PoE to each unit by the Ethernet cable and plug in;
3. Wait for them to power up, about 2 min;
4. Short press the reset button to select the channel from 1 to F;
5. Repeat the above steps for the other bridge. Both of the 2 bridges need to be on the same channel;
6. Wait for 2-5 minutes to complete the pairing. When the number of the digital tube is fixed and the signal light on the side turns on, it means the pairing is successful;
7. Finally connect other devices(Router, PC, Switch) and install them to the target location.
   (TIPS: Steps 1, 4 and 5 are already Pre-configured)

5.3 Point to Multi-point Pairing Step:

e.g. 1 Master bridge and 3 Slave Bridges

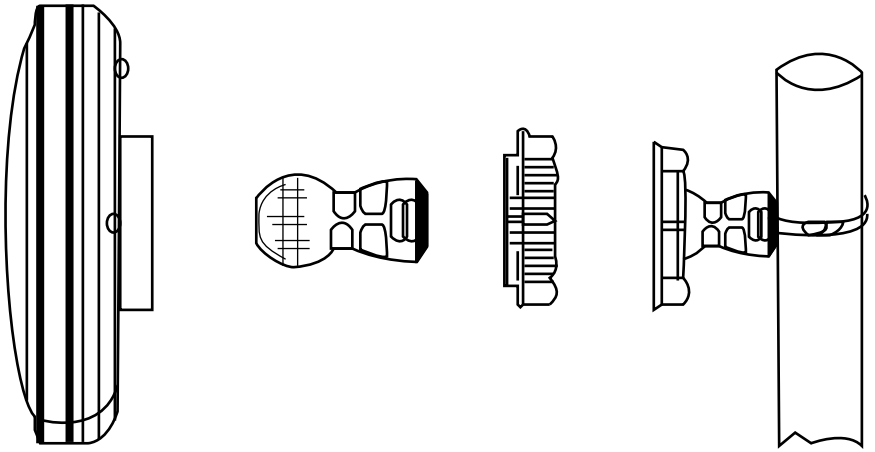
1. Switch one unit to A(Master Bridge) and the other 3 units to B (Slave Bridge);
2. Connect the PoE to each unit by the Ethernet cable and plug in;
3. Wait for them to power up, about 2 min;
4. Short press the reset button to select the channel from 1 to F;
5. Repeat the above steps for the other 3 bridges. All of the 4 bridges need to be on the same channel;
6. Wait for 2-5 minutes to complete the pairing. When the number of the digital tube is fixed and the signal light on the side turns on, it means they pairing is successful;
7. Finally connect other devices (Router, PC, Switch) and install them to the target location.
   (TIPS: Steps 1, 4 and 5 are already Pre-configured)

★Note:

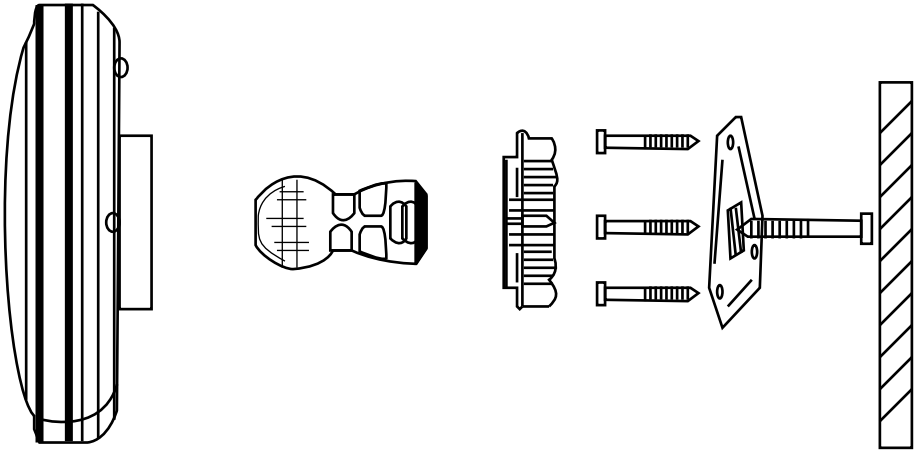
For point to point installation, the line of sight of the 2 wireless bridges must be clear and cannot pass through the wall. The signal transmission angle of the bridge is 60 degrees. For point to multi-point installation, the angle of the slave bridge needs to be adjusted to ensure that it is within the 60-degree signal range of the main bridge. The antenna polarization direction is horizontal 60°/vertical 30°.

6. Installation

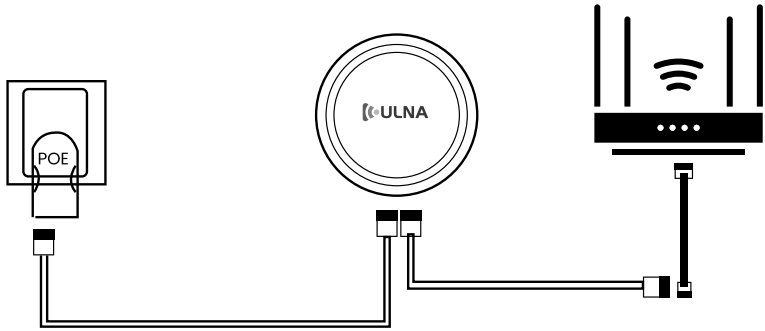
6.1 Pole mount



6.2 Wall-mounted



6.3 Connect to the device



Choose to pole mount or wall-mounted, adjust the CPE orientation, the bracket is not included in the package. Recommended ULNA Universal Bracket (ASIN: B0BCNZFNTD)

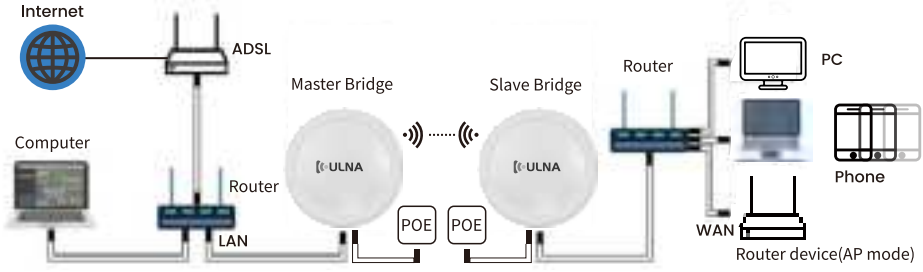
7. WiFi Function

1. The WiFi function is turned on by default for the master bridge.
WiFi SSID: 5GCPE_5GXXX
WiFi PWD: qlinkcpe123456XXX
XXX represents different channels, please refer to the comparison table in the user manual.
You can access the wireless bridge through your computer to set the SSID and new WiFi password. Please refer to the advanced settings section.

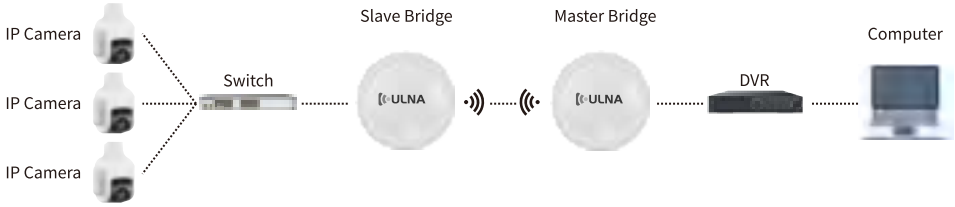
8. Application Case

8.1 Case 1: Point-to-point extended network WiFi range

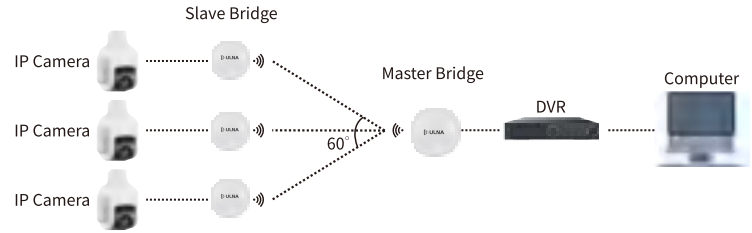
Suitable for extending the network to second building, such as garages, shops, barns,etc.



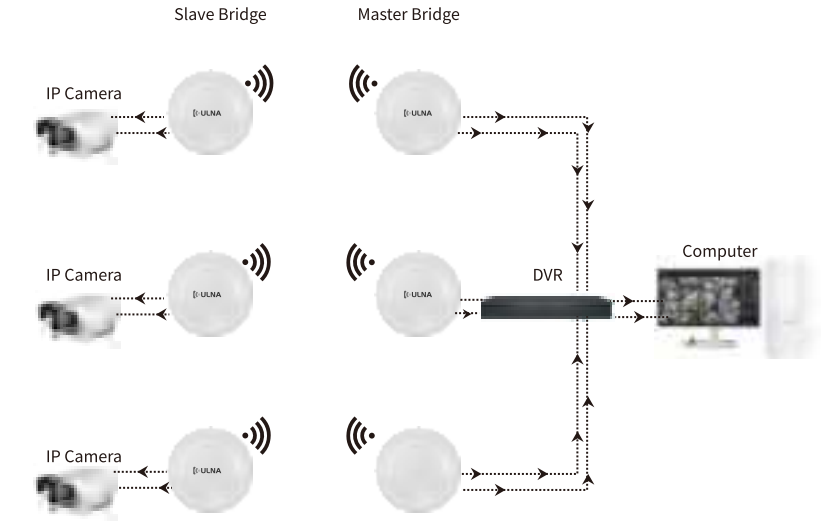
8.2 Case 2: Point-to-point extended of surveillance cameras range



8.3 Case 3: Point-to-multiple point extended surveillance cameras range



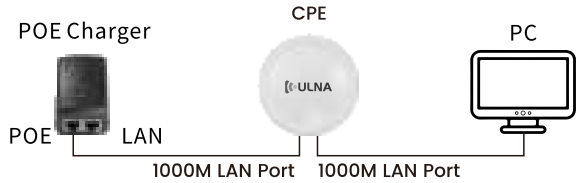
8.4 Case 4: Point-to-point extended surveillance cameras range



9. Advanced Settings

Note:
The wireless bridge can work without advanced settings

1. Computer Access Wireless Bridge, connect the CPE to the computer by Ethernet cable Refer to the figure to connect the CPE to computer by Ethernet cable and power the CPE by PoE injector



2. Modify your computer's IP address, make your computer's IP and the bridge's IP address be on the same network segment(LAN) so that you can access them.

Step 1: Find and open "Open Network and Sharing Center" on your computer. Tips： click the network icon in the lower right corner of the computer.
Step 2： Find and open the "Change adapter settings", select "Local Area Connection" to right-click to open the network properties. Refer to the picture above to open.
Step 3: Find and double-click open the "Internet Protocol Version 4 (TCP/IPv4)", choose the " Use the following IP address" and enter IP address, subnet mask, Default gateway, Preferred DDS server.

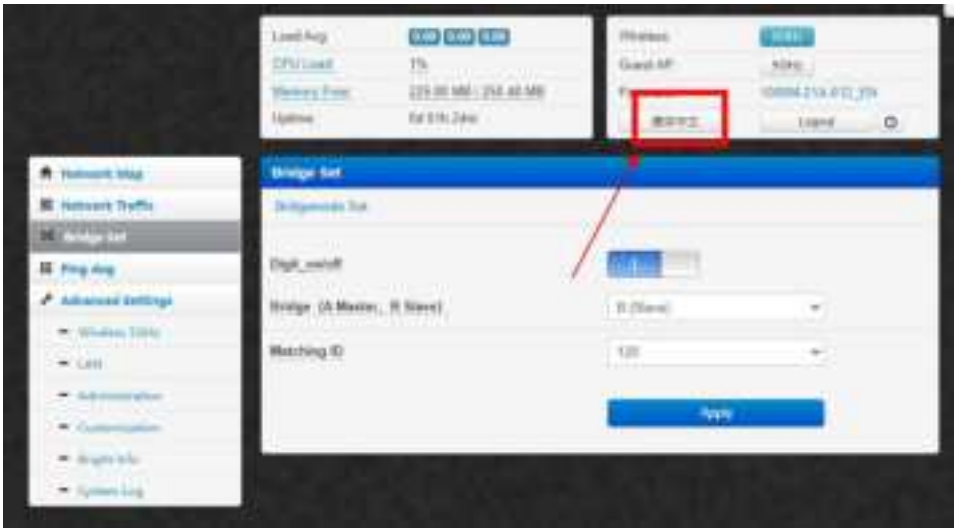
3.Change your computer's IP address to 192.168.255.xxx (192.168.255.xxx cannot be the same as the IP of the CPE), then entry IP address is 192.168.255.xxx, the subnet mask is 255.255.255.0(Autofill), the Default gateway is 192.168.255.xxx, Preferred DDS server 192.168.255.xxx. You can use 192.168.255.105(xxx=5) in the reference picture to set.

4. On the login page
User Name: admin
Password: admin

Note:
"admin" is not the password of the WiFi SSID, it is just the password for WEB access.

5. Login successful, go to setting.

5.1 Language - ULNA Wireless Bridge CPE609P support English&Chinese, you can choose the language on this page

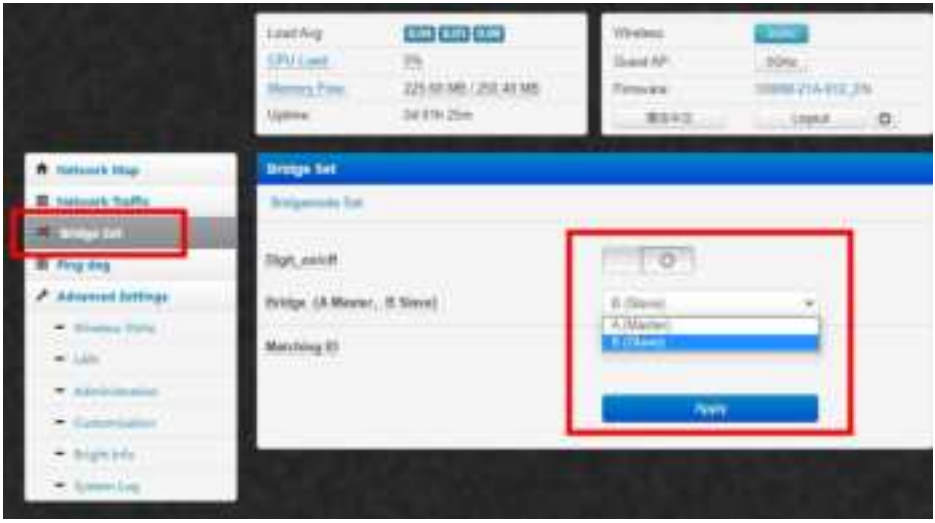


5.2 Digit on/off

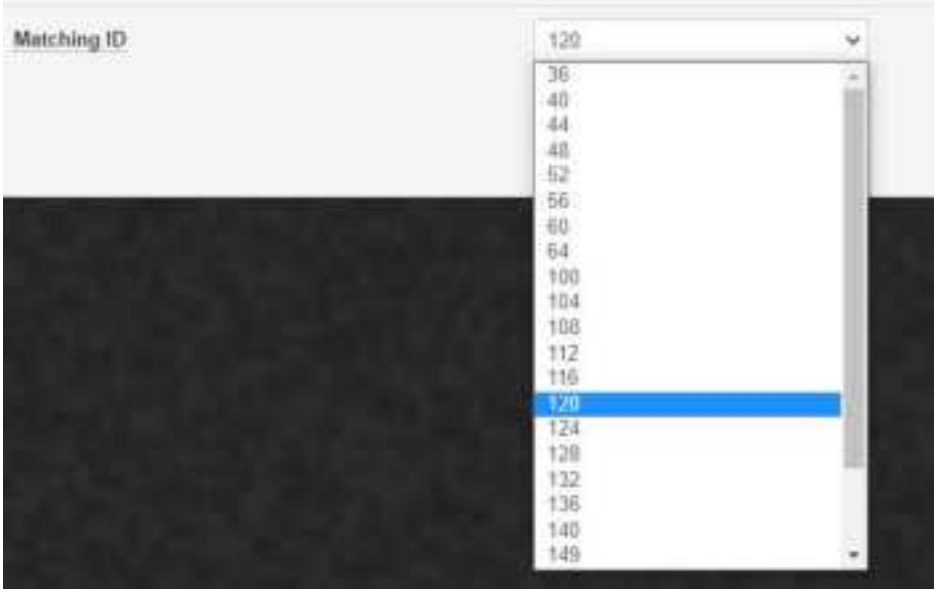
Digit on/off" Enable - the bridges are pairing by switching the A-B button and short click the reset button to select a channel;

Digit on/off" Disable - the bridges are pairing by manually selecting a channel and A/B bridge on the Web page.

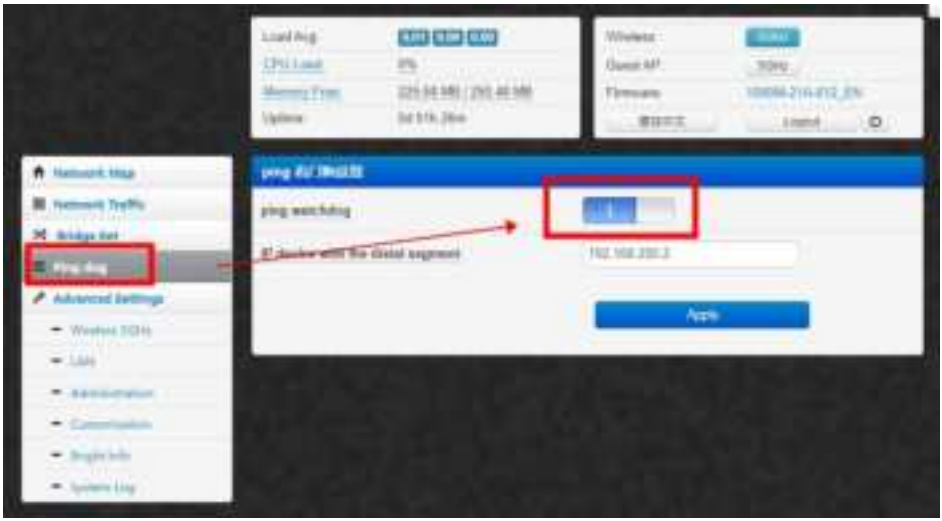
5.2.1 Disable Digit on/off" - Selecting Master/Slave Bridge



5.2.2 Disable Digit on/off" - Selecting a channel

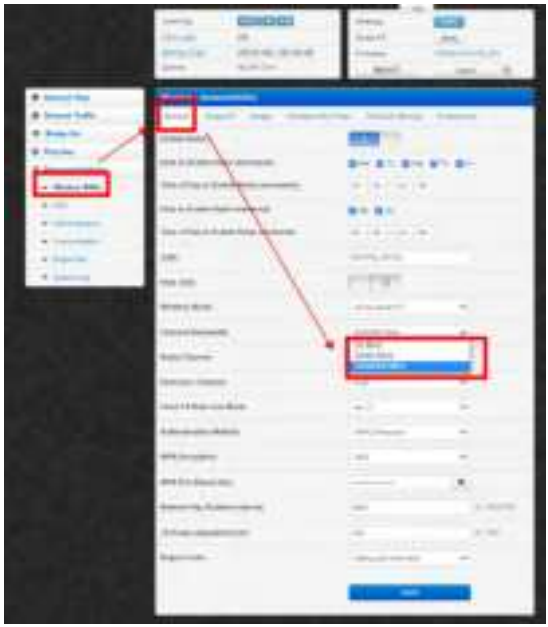


5.3 Watchdog - You can enable or disable watchdog function on this page



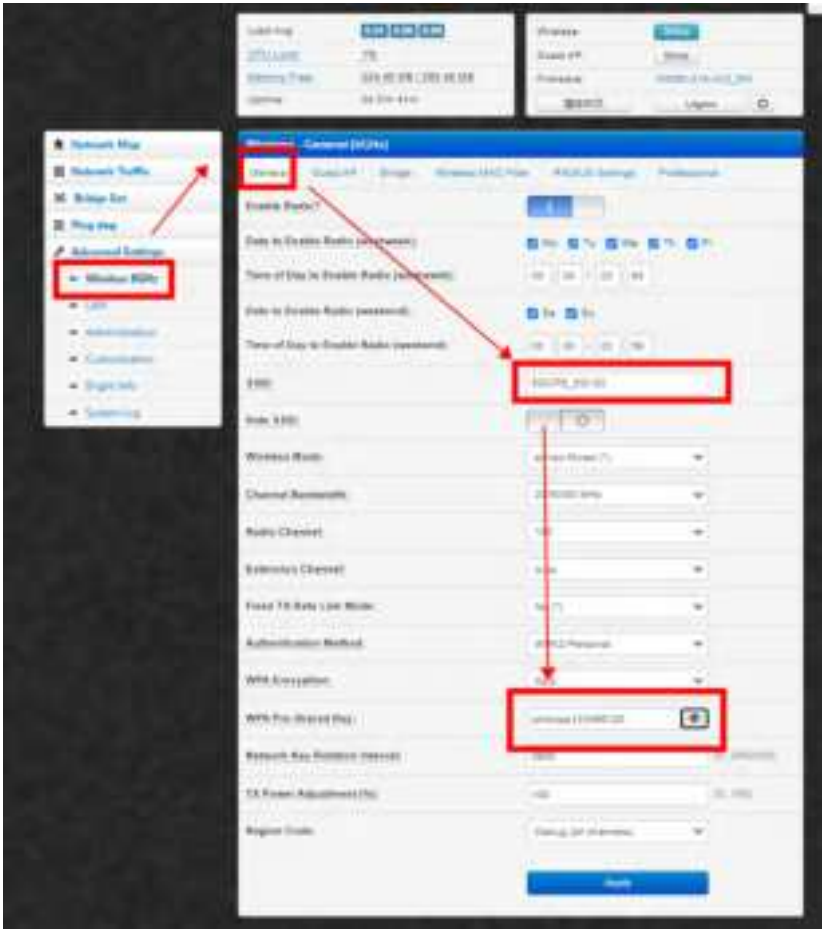
5.4 Wireless 5Ghz

5.4.1 Channel Bandwidth - The wider bandwidth, the shorter transmission distance. We recommend you to select the maximum bandwidth.



5.4.2 Region Code - Please select the right time zone of the wireless bridge on this page, which affects the WiFi speed.

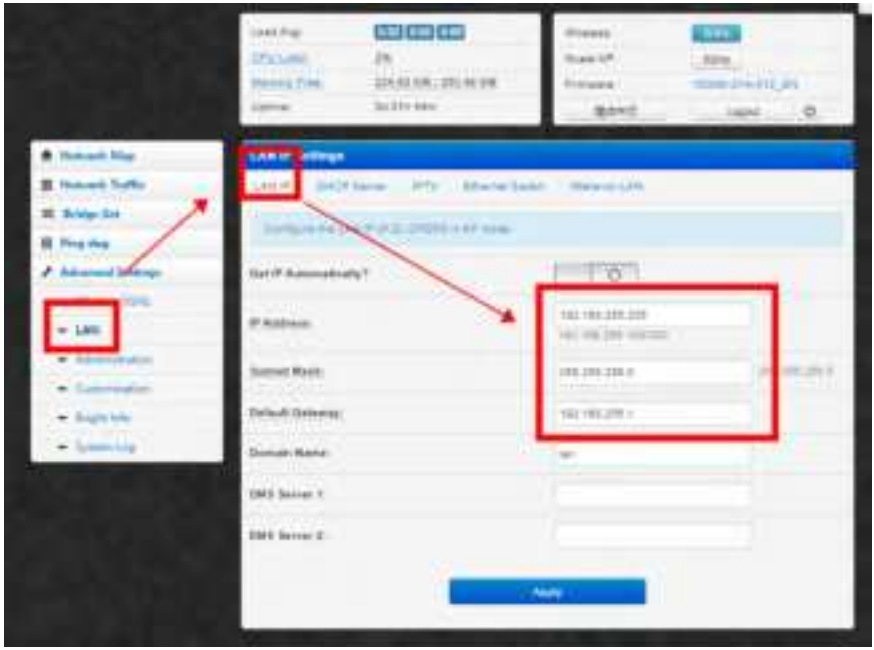
5.4.3 SSID & Password - You can find the WiFi information on this page



Note:
If you want to set a new SSID and password, just enter new information and apply.

5.4.4 If you have changed the SSID and password, you could enter the new information on the page for faster automatic re-pairing.

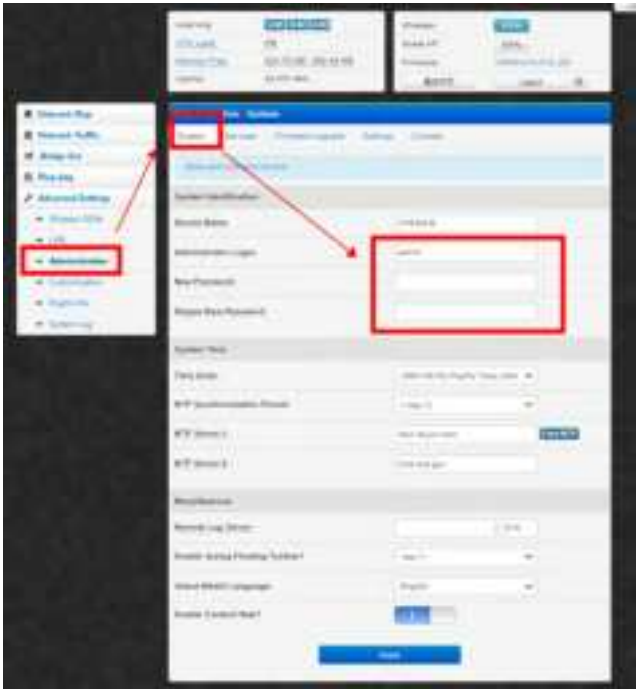
5.5 How to change IP address- You can change the IP address on this page.



5.6 System Log

5.7 How to Change Login User Name and Password

Enter the new information on Administrator Login, New Password, Retype Password and then Apply.



Digital & IP & WiFi Correspondence Chart

You can check the SSID and password through this chart.

LED	A IP	B IP	5.8 ID	SSID	Password
0	192.168.255.100	192.168.255.200	0	5GCPE_5G0	qlinkcpe1234560
1	192.168.255.101	192.168.255.201	36	5GCPE_5G36	qlinkcpe12345636
2	192.168.255.102	192.168.255.202	64	5GCPE_5G64	qlinkcpe12345664
3	192.168.255.103	192.168.255.203	100	5GCPE_5G100	qlinkcpe123456100
4	192.168.255.104	192.168.255.204	48	5GCPE_5G48	qlinkcpe12345648
5	192.168.255.105	192.168.255.205	120	5GCPE_5G120	qlinkcpe123456120
6	192.168.255.106	192.168.255.206	124	5GCPE_5G124	qlinkcpe123456124
7	192.168.255.107	192.168.255.207	128	5GCPE_5G128	qlinkcpe123456128
8	192.168.255.108	192.168.255.208	132	5GCPE_5G132	qlinkcpe123456132
9	192.168.255.109	192.168.255.209	136	5GCPE_5G136	qlinkcpe123456136
a	192.168.255.110	192.168.255.210	112	5GCPE_5G112	qlinkcpe123456112
b	192.168.255.111	192.168.255.211	149	5GCPE_5G149	qlinkcpe123456149
c	192.168.255.112	192.168.255.212	153	5GCPE_5G153	qlinkcpe123456153
D	192.168.255.113	192.168.255.213	157	5GCPE_5G157	qlinkcpe123456157
e	192.168.255.114	192.168.255.214	116	5GCPE_5G116	qlinkcpe123456116
f	192.168.255.115	192.168.255.215	108	5GCPE_5G108	qlinkcpe123456108

10. Troubleshooting

Trouble	Reason	Solution
Packet Latency	1. Wireless interference 2. Distance is too long, or there are some walls between them 3. CPE's angle in the wrong direction, weak signal	1. Use WiFi analysis to choose the best channel 2. CPE should be in the normal distance, and avoid the wall 3. Adjust the angle of CPE according to signal strength
Wrong Password	1. Forget the password 2. Input wrong password 3. Too much cookie 4. WiFi password is confused with the WEB access password	1. Press the "RST" button in 10s to reset the bridge, the default password is admin. 2. Re-input the password 3. Clear cookie, run arp -d to clear MAC table 4. WEB access user namer and password is "admin"
Can not login WEB	1. Local IP is not in the same network segment of CPE 2. IP is taken by other devices 3. LAN connection or Ethernet cable has a problem 4. Too much cookie, MAC address haven't update	1. Ping bridge IP address to see the connection status 2. Stop other devices or change to another IP address 3. Check LAN connection and Ethernet cable 4. Clear cookie, run arp -d to clear MAC address
System LED light off	1. PoE power supply is not working 2. Some problem in CPE's PoE port 3. Ethernet cable is loose, RJ45 port is wrong power current/voltage lower or wrong	1. Check if the PoE injector or PoE switch work 2. Check if the PoE port of CPE is ok 3. Check if Ethernet cable is loose if Ethernet cable plugged into PoE port 4. Check if the voltage is normal, if the socket has problem if the input voltage of the PoE injector is normal

Low transmission Rate	1. Packet Latency 2. Ethernet cable circuit 3. Network virus attack 4. Too much access users 5. Network Cables type lower than Cat 5e?	1. Adjust the distance, angle and channel to decrease latency 2. Check if port isolated to avoid network virus and broadcast storm 4. Decrease the access users. 5. Change use a Cat 5e or above network cable.
Device always dead	1. Static electricity 2. Running time too long 3. Lightning stroke	1. Make CPE or PoE injector need a ground connection 2. Running time over 7 days, reboot it 3. After lightning, device PoE port broken or unstable better to deploy lightning conductor
Received defective bridge	Transport damage	Contact us to get a new replacement
Will not pass internet traffic	1.Wrong way to use 2.Need to upgrade the firmware	1. Make sure the bridges have been Pairing; 2. Make sure the 2 bridges are installed face to face, with a clear line of sight and no obstructions; 3. The slave bridge can't transmit WiFi, just connect the bridge and a computer by Ethernet cable to try to see if there is a network. and if you want to connect it wireless, then connect the slave bridge to a new router; 4. Upgrade the firmware.

One of the bridge doesn't work	1.The PoE is defective 2.This bridge is defective	Please change the other PoE to charge. 1.If it works, it's the problem of the PoE. Contact us to replace the PoE. 2.If it doesn't work, it's the problem of the bridge. Contact us to replace the bridge.

11. Technical Support and Service

A. Thank you for your order and for using ULNA Wireless Bridge, please read the manual carefully before use. If there are any problems during the use, please contact us in time;

B. The installation of this device requires some network knowledge. If you can't install it, please let us know or contact a professional. (There are also many installation videos of the bridge on the YouTube that you can refer to, Reference connection setup video: You can search for ULNA wireless bridge on Hardy Brothers Product Reviews channel on YouTube.)

Tech Service Email: support01@ulnastore.com